

App. No.: 10/015,225
Filing Date: 12/13/2001

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REMARKS

Objections

The specification is amended herein above to shorten the abstract responsive to an objection due to undue length.

Prior art rejections

Claims 1-24 stand rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6,711,691 ("Howard"). Applicant herein amends independent claims 1, 9 and 17 to overcome the rejections. In addition, Applicant herein submits new dependent claims 25, 26 and 26, to even more certainly and particularly point out patentable distinctions of the present invention. Further, Applicant herein amends dependent claims 4, 12 and 20 to even more certainly and particularly point out patentable distinctions of the present invention. Further, Applicant herein submits remarks regarding claims 8, 16 and 24.

Claims 1, 9 and 17

Claims 1, 9 and 17 are herein amended to include limitations of claims 3, 11 and 19, respectively, and also to include further limitations. As to claims 3, 11 and 19 the Office action asserts that Howard discloses deactivating a processor includes selecting a processor for deactivation based on the processor's workload, citing Howard, col. 9, lines 51-60, which states, in relevant part, that "... once in the run multiple state 206, the power management processing 200 may determine that particular processors are not needed due, for example, to blocked processes or light workloads." The cited passage also states that, "In such cases, the power management processing 200 can cause these processors to enter a doze mode . . ."

Applicant submits that it is not clear whether reference to "particular processors" in this passage of Howard teaches "selecting a [particular] processor for deactivation based on the [particular] processor's workload," as claimed, or whether it merely teaches that a particular number of processors are not needed based on an overall system workload. This is especially the case, given that "In conventional SMP systems, processing activity is generally distributed approximately equally to each of the processors such that, at any given moment, each processor

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is handling about $1/N$ th of the workload where N is the number of processors in the system.”

Present application, page 6 , lines 18-21 .

In addition, in order to more clearly distinguish the claimed invention, Applicant herein cancels claim 3 and amends claim 1 to incorporate the limitations thereof claim 3, and also to state that the method includes “distributing the workload asymmetrically to the processors in the system.” This feature inherently cooperates with the selecting of a processor for deactivation based on the processor’s workload. That is, this feature facilitates the removal of a *least active* processor from the available resource pool during periods of reduced demand. Applicant also cancels claims 11 and 19 and amends claims 9 and 17 in similar fashion.

No new matter is added, since the original application provides support for the amendments. See present application, page 6 , lines 16-24 (“Resource pool module 138 may select the processor for deactivation in various methods. In one embodiment, resource pool module 138 selects the processor with the least pending activity for deactivation. In conventional SMP systems, processing activity is generally distributed approximately equally to each of the processors such that, at any given moment, each processor is handling about $1/N$ th of the workload where N is the number of processors in the system. In one embodiment of data processing system 100 according to the present invention, however, the workload may be asymmetrically distributed to the processors in the system to facilitate the removal of processors from the available resource pool during periods of reduced demand.”).

Claims 4, 12 and 20

As to claims 4, 12 and 20, the Office action asserts that Howard discloses deactivating a processor includes migrating processes pending on a processor selected for deactivation to another processor, citing Howard’s teaching about mapping of interrupts 502 in connection with transitioning a processor to a sleep mode, which Applicant notes is at Howard, col. 12, lines 12-41. The present application discusses “pending processes” in the claimed context, stating that “Once a processor has been selected for deactivation, operating system 120, in conjunction with resource pool module 138, may initiate the deactivation process by migrating any processes running on the selected processor to another processor in the pool of available processors.” Present application, page 6 , lines 25-27 . It should be appreciated that *interrupt mapping* is not the same as, nor do it suggest, *processes running* on a selected processor. Likewise, the re-mapping of interrupts does not suggest the migrating of running processes.

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In order to more clearly distinguish the claimed invention, Applicant herein amends claim 4 to state that deactivating a processor includes migrating processes *running* on a processor selected for deactivation to another processor. Applicant also amends claims 12 and 20 in similar fashion. No new matter is added, since the original application provides support for the amendments. Present application, page 6, lines 25-27.

Claims 8, 16 and 24

As to claims 8, 16 and 24, the Office action asserts that Howard discloses monitoring the workload includes determining the instantaneous workload periodically and averaging the instantaneous workload data to obtain an average workload, citing Howard, col. 4, lines 59-64, which states, in relevant part, that "... when the workload is not light, the power management processing 10 is complete and ends." But that "the power management processing 10 continuously repeats such that the power management for the computer system is ongoing and dynamically performed." It should be appreciated that the cited passage of Howard refers to repeated monitoring, but not averaging, as claimed.

New claims 25, 26 and 27

In addition to the above, Applicant herein submits new claims 25, 26 and 27 to even more certainly and particularly point out patentable distinctions of the present invention. New claim 25, for example, states that the monitoring of the workload of the system includes "triggering workload monitoring responsive to an asynchronous event selected from among asynchronous events including one or more of the following: initiation of a new process, termination of an executing process, and availability of transaction buffers on the system." Claims 26 and 27 have similar language.

No new matter is added, since the original application provides support for the amendments. See present application, page 7, lines 24-31 ("... the workload monitoring may be triggered by an asynchronous event. The asynchronous event or events that trigger workload monitoring may comprise events tending to suggest that a change in workload is forthcoming. The initiation of a new process or the termination of an executing process, for example, might trigger workload monitoring. Similarly, workload monitoring may be triggered by the availability of transaction buffers on the system where a significant lack of

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buffers suggests that the workload is excessive and an overabundance of buffers suggests that the workload is low.").

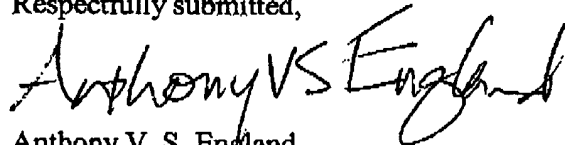
PRIOR ART OF RECORD

Applicant has reviewed the prior art of record cited by but not relied upon by Examiner, and submits that the invention is patentably distinct.

REQUESTED ACTIONS

For the reasons explained herein above, Applicant contends that the claims herein are patentably distinct. Applicant hereby requests that Examiner grant allowance and prompt passage of the application to issuance.

Respectfully submitted,



Anthony V. S. England
Attorney for IBM Corporation
Registration No. 35,129
512-477-7165
a@aengland.com